

REMARKS

Claims 13-16 and 19-23 are now pending in the application. Claims 13 and 14 are currently amended. Claims 1-12 and 17-18 have been cancelled. Claim 23 has been added as a new claim. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

SPECIFICATION

The specification stands objected to for certain informalities. Applicant(s) have amended the title so that it is indicative of the invention to which the claims are directed. Therefore, reconsideration and withdrawal of this objection are respectfully requested.

REQUEST FOR CONSIDERATION OF IDS REFERENCE

It has come to our attention that the references noted on the IDS Form 1449 filed with the application on July 23, 2003, and the IDS Form 1449 filed December 4, 2003, and were both attached to the Office Action mailed December 27, 2005, were not initialed by the Examiner indicating that the references have been considered. We have enclosed a copy of the two IDS Forms 1449 for your convenience.

We would appreciate your initialing the references on the two IDS Forms 1449 and returning a copy of the initialed IDS Forms 1449 to our office at your earliest opportunity.

REJECTION UNDER 35 U.S.C. § 112

Claim 14 stands rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. This rejection is respectfully traversed.

Applicants have amended Claim 14 to comply with the written description requirement and hereby render this rejection moot.

DOUBLE PATENTING

Claims 13-18 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 6,690,035. This rejection is respectfully traversed.

In the reference USP 6,690,035, the first and second semiconductor layers are made of SiC, whereas in the claimed invention those layers are made of GaN or GaAs. SiC is different from GaN and GaAs in the crystalline structure, band gap, electron mobility and so on; therefore GaN and GaAs in the claimed invention cannot be obvious from SiC in the reference. Since SiC has low electron mobility, if SiC is used as a semiconductor, the flow of electron needs to be accelerated by applying the technique in the present invention. On the other hand, since GaN and GaAs have high electron mobility, if GaN and GaAs are used as a semiconductor, it is not necessary to accelerate the flow of electron. As apparent from the difference above, the present invention should not be rejected as double patenting.

REJECTION UNDER 35 U.S.C. § 103

Claims 13-17, 19 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 05-013446. This rejection is respectfully traversed.

Applicants have cancelled Claim 17. In the Office Action, the Examiner misunderstands that both first and second semiconductor layers in the reference JP 05-13446 ('446) are made of GaAs. The English translation of the reference that the Examiner has read is not a precise translation. We thus enclose herewith a partial English translation of '446 (paragraphs [0013] and [0014]). As readily recognizable from the attached translation, the first semiconductor layer of '446 is an i-GaAs layer and the second semiconductor layer is a doping layer. When forming doping layers, the invention in '446 closes the shutter of Ga evaporation source and opens the shutter of Si evaporation source. As such, the second semiconductor layers in '446 does not include Ga and thus the first and second semiconductor layers in '446 are made of different materials. For the foregoing reasons, the structure of the claimed invention is different from that of '446 and the present invention is not obvious from '446.

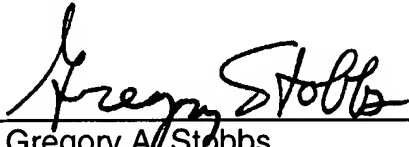
CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the

Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: April 27, 2005

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